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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/536,846	05/31/2005	Arnaud Bourge	FR 020134	6234

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EXAMINER	
PHILIPPE, GIMS S	

ART UNIT	PAPER NUMBER
2621	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/536,846	BOURGE ET AL.	
	Examiner	Art Unit	
	Gims S. Philippe	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,8 and 12* is/are rejected.

7)☒ Claim(s) *5-7 and 9-11* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This is a first office action in response to application no. 10/536,846 filed on May 31st 2005 in which claims 1-12.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005 <http://www.uspto.gov/web/offices/com/sol/og/2005/week47/og200547.htm>), Annex IV, reads as follows:

> Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data.
>
> When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare In re Lowry, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and Warmerdam, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).
>
> In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

3. Claims 12 is rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter as follows.

Claim 12 defines a computer program embodying functional descriptive material. However, the claim does not define a computer-readable medium or memory and is thus non-statutory for that reason (i.e., "When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized" - Guidelines Annex IV). That is, the scope of the presently claimed computer software product can range from paper on which the program is written, to a program simply contemplated and memorized by a person. The examiner suggests amending the claim to embody the program on a **"computer-readable medium" or equivalent in order to make the claim statutory**. Any amendment to the claim should be commensurate with its corresponding disclosure.

Claim Objections

4. Claims 5-7, 9-10 are objected to because of the following informalities: the dependency of the claim should be in the preamble. It is noted that the applicant claims dependency in the middle of the claims. It is suggested that the claims be corrected to show the dependency in the preamble. Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claims 1-3 and 8 rejected under 35 U.S.C. 102(e) as being anticipated by Lee et al. (US Patent no. 6,631,162).

Regarding claims 1-3 and 8, Lee discloses a device and method of measuring blocking artifacts on the basis of video data encoded in accordance with a block-based encoding technique (See Abstract), the method comprising the steps of computing a mono-dimensional inverse discrete transform of a first row of a first block of encoded video data, suitable for supplying a value of a first virtual border pixel (See Lee col. 6, lines 52-56), computing a mono-dimensional inverse discrete transform of a first row of a

second block of encoded video data, the second block being adjacent to the first block, suitable for supplying a value of a second virtual border pixel (See Lee col. 5, lines 59-61 and col. 6, lines 52-56), computing (33) a blocking artifact level on the basis of an absolute value of a difference between the values of the first and second virtual pixels (See Lee col. 6, lines 57-63, and col. 2, lines). The applicant should note that Lee will repeat the same process for edge pixel determination as noted in col. 6, lines 52-63 by using one dimensional IDCT. The examiner considers the blocks to be adjacent blocks in Lee as the binary edge map is being generated (See Lee col. 6, lines

As per claims 2-3, Lee further determines the virtual border pixel at a point corresponding to a border between the first and the second blocks, and at points corresponding to the nearest pixel on both sides of a border between the first and second blocks (See Lee Fig. 6 and col. 6, lines 31-56).

As per claim 12, most of the limitations of this claim have been noted in the above rejection of claim 1. In addition, the computer program is present in Lee col. 8, lines 4-10.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. (US Patent no. 6,631,162) in view of Tavares (US Patent no. 7020207).

As per claim 4, most of the limitations of this claim have been noted in the above rejection of claim 1.

It is noted that Lee is silent about weighting the computation of a level of blocking artifact by a weighting coefficient which is a function of the properties of the human visual system.

However, Tavares discloses a device and method of measuring blocking artifacts wherein the computation of a level of blocking artifact is performed by a weighting coefficient which is a function of the properties of the human visual system (See Tavares col. 7, lines 28-39).

Therefore, it is considered obvious that one skilled in the art at the time of the invention would recognize the advantage of modifying Lee's artifact detection method and device by incorporating Tavares' step of using a weighting coefficient which is a function of the human visual. The motivation for performing such a modification in Lee is to achieve a strength or visual sensitivity reduction as taught by Tavares (See Tavares col. 7, lines 36-39).

9. Claims 5-7 and 9-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form, ***with the proper corrections***

as requested above, including all of the limitations of the base claim and any intervening claims.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ameres et al. (US Patent no. 7027654) teaches video compression system.
Yu et al. (US Patent no. 6823089) teaches method of determining the extent of blocking and contouring artifacts in a digital image.
Holcomb et al. (US Patent no. 7266149) teaches sub-block transform coding of prediction residuals.
Yu et al. (US Patent no. 6643410) teaches method of determining the extent of blocking artifacts in a digital image.
Astle (US Patent no. 5590064) teaches post-filtering for decoded video signals.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gims S. Philippe whose telephone number is (571) 272-7336. The examiner can normally be reached on M-F (10:30-7:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571) 272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Gims S Philippe
Primary Examiner
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